ELECTROLUBE
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UVCLP
UV Curable Polyurethane Coating

UVCLP is a rapid cure, flame retardant, tough yet flexible, high performance, solvent-free conformal coating, designed specifically for selective coating processes. UVCLP has the advantage of being transparent when applied at thicknesses below 150 µm. It offers a greater coating thickness and enhanced edge coverage and shows improved adhesion, abrasion, scratch and solvent resistance when compared to conventional single component coatings.

- Rapid UV curing with fast chemical secondary cure mechanism for shadowed areas
- Flame retardant and transparent at thicknesses below 150µm; meets UL94 V-0
- Coating exhibits excellent adhesion and hardness
- High coating thickness achievable; enhanced edge coverage

Approvals	**RoHS Compliant (2015/863/EU):**	**Yes**
	REACH Compliant:	**Yes**
	IPC-CC-830:	**Meets Requirements**
	UL746	**Meets UL94 V-0**
Liquid Properties	Appearance:	White Opaque Liquid
	Density @ 20°C (g/ml):	1.14 (mixed)
	Flash Point:	>100ºC
	Min. Solids Content (1hr @80˚C):	>99%
	Mix Ratio:	1:1 v/v
	Mixed System Viscosity @ 25˚C:	1500-2500
	Mixed Useable Life @ 20°C:	5 Minutes
	Recommended Drying Time:	UV (see curing instructions – page 2)
	Touch Dry Time at 20°C:	10 Minutes
Dry Film Coating	Colour:	Colourless/Transparent
	Recommended Coating Thickness:	100-150µm
	Temperature Range:	-40 to +130ºC
	Thermal Shock Range:	-65 to +125ºC
	Thermal Shock (1000 cycles):	No cracking, blistering or delamination*
	Shore Hardness:	A90
	Elongation at Break (BS EN ISO 537):	40-50%
	Tensile Strength (BS EN ISO 537):	7 MPa @ 20˚C
	Elastic Modulus (BS EN ISO 537):	18 MPa @ 20˚C
	Dielectric Strength:	90 kV/mm
	Surface Insulation Resistance:	1×10^{15} Ω
	Moisture Resistance (IPC-CC-830):	9.34×10^{9} Ω
	Flammability:	Meets UL94 V-0

*Other thermal shock regimes are also possible, i.e. different temperatures, number of cycles, etc.

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Certificate No. FM 32082

Description	Packaging	Order Code
UVCLP UV Cure Conformal Coating Part A	5 Litre	EUVCLP05L
UVCLP Part B 1L	1 Litre	E2KPBO01L
UVCLP Part B 5L	5 Litre	E2KPBO05L

Directions for Use

UVCLP is intended to be applied by selective spray coating. It is recommended that the use of a high accuracy, volumetric metering system, such as progressive cavity pumps are used to control the mix ratio of the two components. It is recommended that a 10 turn static mixer is used to ensure complete mixing of the two components prior to reaching the dispense valve. The use of a heated applicator block can result in reduced film builds and faster cycle times. Machine settings for various selective spraying options are available upon request.

Directions for Curing

The use of an Iron doped, Arc or Microwave style curing lamp is recommended. Using such a lamp, the following parameters have been established for optimum curing, without inducing defects or excessive ageing of the coating.

UV Energy Range	Dose (J/cm^2)		Irradiance (W/cm^2)	
	Min	Max	Min	Max
UVA	3.5	4.0	0.7	0.9
UVB	1.5	2.0	0.3	0.5
UVC	0.4	0.6	0.1	0.2

It is also possible to cure UVCLP using UV LED at 365nm, please contact Electrolube for further information on the settings.

Inspection

UVCLP contains a UV trace, which allows inspection of the PCB after coating to ensure complete and even coverage; the stronger the reflected UV light, the thicker the coating layer is. UV light in the region of 375nm should be used for inspection.

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